

REMARKS

[0001] Applicant's attorney respectfully requests reconsideration and allowance of all of the claims of the application. Claims 1-5, 21-42, 49-50 are presently pending. Claims 21 and 32 are amended herein. Claims 6-20 and 43-48 are withdrawn or cancelled herein.

Formal Request for an Interview

[0002] If the Examiner's reply to this communication is anything other than allowance of all pending claims, then I formally request an interview with the Examiner. I encourage the Examiner to call me—the undersigned representative for the Applicant—so that we can talk about this matter so as to resolve any outstanding issues quickly and efficiently over the phone.

[0003] Please contact me to schedule a date and time for a telephone interview that is most convenient for both of us. While email works great for me, I welcome your call as well. My contact information may be found on the last page of this response.

Allowable Subject Matter

[0004] Applicant would like to thank the Examiner for allowing claim 36 and for indicating allowability of claim 32. These claims have not been amended herein (other than to include recitations in claim 32 of independent claim 27), and therefore remain allowable.

Substantive Matters

Claim Rejections under § 102 and/or § 103

[0005] The Examiner rejects claims 21-23 and 25-26 under § 102. For the reasons set forth below, the Examiner has not shown that the cited reference anticipate the rejected claims.

[0006] In addition, the Examiner rejects claims 1-5, 24, 27-31, 33-35, 37-42, 49, and 50 under § 103. For the reasons set forth below, the Examiner has not made a *prima facie* case showing that the rejected claims are obvious.

[0007] Accordingly, Applicant's attorney respectfully requests that the § 102 and § 103 rejections be withdrawn and the case be passed along to issuance.

[0008] The Examiner's rejections are based upon the following references alone and in combination:

- **US Patent No. 6,369,969 to Christiansen et al:** "*Christiansen et al*" hereinafter, (issued April 9, 2002); and
- **US Patent No. 5,862,005 to Leis et al:** "*Leis et al*" hereinafter, (issued January 19, 1999).

Anticipation Rejections

[0009] Applicant's attorney submits that the anticipation rejections are not valid because, for each rejected claim, no single reference discloses each and every element of that rejected claim.¹ Furthermore, the elements disclosed in the single reference are not arranged in the manner recited by each rejected claim.²

Based upon *Christiansen et al*

[0010] The Examiner rejects claims 21-23 and 25-26 under 35 U.S.C. § 102(e) as being anticipated by *Christiansen et al.* Applicant's attorney respectfully traverses the rejection of these claims. Based on the reasons given below, Applicant's attorney asks the Examiner to withdraw the rejection of these claims.

Independent Claim 21

[0011] Applicant's attorney submits that *Christiansen et al* does not anticipate this claim because it does not disclose all of the elements as recited in this claim. In specific, claim 21 recites a comparator coupled to the Viterbi detector and operable to determine if the connection polarity of the

¹ "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987); also see MPEP §2131.

² See *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990).

electromagnetic read head is incorrect by comparing the recovered synchronization mark to a reference synchronization mark.

[0012] For example, referring, *e.g.*, to FIGS. 1 and 5-6 of the present application, an electromagnetic read head 14 is coupled to a Viterbi detector 100 with a connection polarity. The Viterbi detector 100 may recover a sync mark from the servo signal, and a comparator 104 may then determine if the connection polarity is incorrect by comparing the recovered sync mark to a reference sync mark. If the recovered sync mark matches the reference sync mark, then the comparator 104 determines that the connection polarity of the read head 14 is correct. If the recovered sync mark does not match the reference sync mark, then the comparator 104 determines that the connection polarity of the read head 14 is incorrect. It should be noted that it is the connection polarity of the read head itself (to the Viterbi detector) that is being determined. The connection polarity of the read head does not deviate or change over time; it is either correct or incorrect.

[0013] *Christiansen et al*, on the other hand, does not disclose an electromagnetic read head that is coupled to a Viterbi detector with a connection polarity, and a comparator operable to determine if the connection polarity of the electromagnetic read head is incorrect. Instead, *Christiansen et al* discloses a data detector 30 that receives a polarity signal 28 that is indicative of a polarity of the bias layer (not the connection of the read head) within the MR read element within the MR head 20 (FIG. 2; col. 3, lines 1-9). As the MR head 20 is used, the bias layer may eventually deviate from its preferred polarity due to the magnetic field induced by the write element or the magnetic field emanating from the disk

(col. 1, lines 36-43). This deviation causes a reduction in the sensitivity of the MR head 20 (col. 1, lines 44-46). When the polarity of the bias layer has deviated from the preferred polarity, the polarity of the bias layer is modified by increasing the bias current applied to the bias layer (col. 3, lines 9-11 and col. 5, lines 25-35).

[0014] Furthermore, the Examiner tacitly admits that *Christiansen et al* does not teach this recitation when specifically stating so in the obviousness rejections of claim 1, 27 and others. Simply put, the Examiner correctly understands that *Christiansen et al* does not teach the recitations of claim 21 based upon the reasoning put forth in the most recent Office Action.

[0015] Consequently, *Christiansen et al* does not disclose all of the elements and features of this claim. Accordingly, Applicant's attorney asks the Examiner to withdraw the rejection of this claim.

Dependent Claims 22-23 and 25-26

[0016] These claims ultimately depend upon independent claim 21. As discussed above, claim 21 is allowable. It is axiomatic that any dependent claim which depends from an allowable base claim is also allowable. Additionally, some or all of these claims may also be allowable for additional independent reasons.

Obviousness Rejections

Lack of *Prima Facie* Case of Obviousness (MPEP § 2142)

[0017] Applicant disagrees with the Examiner's obviousness rejections. Arguments presented herein point to various aspects of the record to demonstrate that all of the criteria set forth for making a *prima facie* case have not been met. To establish *prima facie* obviousness of a claimed invention, all of the claim recitations must be taught or suggested by the prior art¹ and "all words in a claim must be considered in judging the patentability of that claim against the prior art."² Further, if prior art, in any material respect teaches away from the claimed invention, the art cannot be used to support an obviousness rejection.³ Moreover, if a modification would render a reference unsatisfactory for its intended purpose, the suggested modification / combination is impermissible.⁴

Based upon *Christiansen et al* and *Leis et al*

[0018] The Examiner rejects claims 1-5, 24, 27-31, 33-35, 37-42, 49, and 50 under 35 U.S.C. § 103(a) as being unpatentable over *Christiansen et al* and *Leis et al*. Applicant's attorney respectfully traverses the rejection of these claims and asks the Examiner to withdraw the rejection of these claims.

¹ *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)

² *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970)

³ *In re Geisler*, 116 F.3d 1465, 1471, 43 USPQ2d 1362, 1366 (Fed Cir. 1997)

⁴ See MPEP § 2143.01

Independent Claim 1

[0019] Applicant's attorney submits that the combination of *Christiansen and Leis* does not teach or suggest all of the elements as recited in this claim. In specific, claim 1 recites a determinator coupled to the circuit and operable to determine from the recovered servo data whether the phase of the servo signal is reversed. That is, the determinator may definitively determine whether the phase of a servo signal is reversed.

[0020] The Examiner correctly acknowledges that *Christiansen et al* cannot be construed to teach or suggest this recitation. However, the cited and applied section of *Leis et al* also fails to teach or suggest this recitation. In particular, the cited and applied section (column 11, lines 20-39) teaches recognition of the problem wherein if the read head is incorrectly installed, its polarity may be reversed. *Christiansen et al* is wholly and completely oblivious to the existence of this problem as noted above. However, as *Leis et al* is aware of this problem, the solution taught by *Leis et al* is to "try" a flip bit control in response to a data read error. Thus, a control processor may time out after several attempts resulting in read errors wherein a flip control bit may be set to see if the read head polarity reversal is the problem. However, this is simply a "try it and see" approach as the read error may be the result of some other problem. Notwithstanding, simply flipping a control bit to see if a polarity reversal of the read head fixes a problem is simply not the same as a determinator coupled to the circuit and operable to determine from the recovered servo data whether the phase of the servo signal is reversed as recited in claim 1. Neither *Leis et al* nor

Christiansen et al can definitely determine whether or not the phase of the read head is reversed.

[0021] Furthermore, the motivation to combine the teachings of *Christiansen et al* and *Leis et al* is lacking. *Christiansen et al* is directed to a device for determining a polarity of the bias layer (not the connection of the read head) within the MR read element within the MR head 20 (FIG. 2; col. 3, lines 1-9). As the MR head 20 is used. As discussed above, the bias layer may eventually deviate from its preferred polarity due to the magnetic field induced by the write element or the magnetic field emanating from the disk (col. 1, lines 36-43). This deviation causes a reduction in the sensitivity of the MR head 20 (col. 1, lines 44-46). When the polarity of the bias layer has deviated from the preferred polarity, the polarity of the bias layer is modified by increasing the bias current applied to the bias layer (col. 3, lines 9-11 and col. 5, lines 25-35). Not being concerned with the connection polarity of the read/write head, no skilled artisan would turn to any other teaching to solve a problem not identified in *Christiansen et al*.

[0022] Even if one were motivated to ask that question with regard to *Christiansen et al*, a skilled artisan would still not turn to *Leis et al* in that *Leis et al* merely teaches a software solution (flipping a bit) to a hardware problem (reversed head polarity). As a result, these references teach away from each other and therefore, such a combination in an attempt to establish a *prima facie* obviousness rejection is impermissible.

[0023] As shown above, the combination of *Christiansen et al* and *Leis et al* does not teach or suggest all of the elements and features of this claim.

Accordingly, Applicant's attorney asks the Examiner to withdraw the rejection of this claim.

Dependent Claims 2-5

[0024] These claims ultimately depend upon independent claim 1. As discussed above, claim 1 is allowable. It is axiomatic that any dependent claim which depends from an allowable base claim is also allowable. Additionally, some or all of these claims may also be allowable for additional independent reasons.

Dependent Claim 24

[0025] These claims ultimately depend upon independent claim 21. As discussed above, claim 21 is allowable. It is axiomatic that any dependent claim which depends from an allowable base claim is also allowable. Additionally, some or all of these claims may also be allowable for additional independent reasons.

Independent Claims 27, 33, 37, 38, 49 and 50

[0026] Applicant's attorney submits that the combination of *Christiansen and Leis* does not teach or suggest the recitations of these claims for at least similar reasons as discussed above with respect to claim 1. As such, the combination of *Christiansen and Leis* does not teach or suggest all of the

elements and features of these claims. Accordingly, Applicant's attorney asks the Examiner to withdraw the rejection of these claims.

Dependent Claims 28-31, 34-3, and 39-42

[0027] These claims ultimately depend upon one of independent claims 27, 33, or 38. As discussed above, these independent claims are allowable. It is axiomatic that any dependent claim which depends from an allowable base claim is also allowable. Additionally, some or all of these claims may also be allowable for additional independent reasons.

Conclusion

[0028] All pending claims are in condition for allowance. Applicant's attorney respectfully requests reconsideration and prompt issuance of the application. If any issues remain that prevent issuance of this application, the **Examiner is urged to contact me before issuing a subsequent Action.** Please call or email me at your convenience.

[0029] Any additional fees required as a result of this amendment have been paid from the below-referenced deposit account as filed herewith. Should further payment be required to cover such fees you are hereby authorized to charge such payment to Deposit Account No. 07-1897.

Respectfully Submitted,

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